

**Standard 7-7** The student will demonstrate an understanding of the significant political, economic, geographic, scientific, technological, and cultural changes and advancements that took place throughout the world from the beginning of the twentieth century to the present day.

**7-7.3** Explain the global influences on the environment, including the effects of increases in population, the growth of cities, and efforts by citizens and governments to protect the natural environment. (G)

**Taxonomy Level:** B 2 Understand/Conceptual Knowledge

**Previous/future knowledge:**

In 3<sup>rd</sup> grade, students explained the impact and the causes of emigration from South Carolina and internal migration from the rural areas to the cities, including unemployment, poor sanitation services, and the lack of electricity and other modern conveniences in rural locations (3-5.4).

In 5<sup>th</sup> grade, students explained how humans change the physical environment of regions and the consequences of such changes, including the use of natural resources and the expansion of transportation systems (5-6.2).

In Global Studies, students will summarize the impact of economic and political interdependence on the world, including efforts to control population growth, economic imbalance and social inequality and efforts to address them (GS-6.4).

**It is essential for students to know:**

The green revolution that began in the 1960s was an attempt to increase food production worldwide through the increased use of fertilizers, pesticides, and new strains of crops. The result was higher yields of crops and lower rates of famine. Increases in agriculture resulted in an increase in population. A downside to this green revolution, however, was the chemicals released into the environment. Additionally, these fertilizers and pesticides, as well as the equipment needed to harvest larger yields of crops, often are too expensive for many farmers.

With the increase in population has come increased **urbanization**. According to the United Nations' *World Urbanization Prospects*, in 1950, it was estimated that approximately 732 million people in the world lived in urban areas. In 2005, this number was estimated to have quadrupled to 3.2 billion. Urbanization often results in problems of increased waste, localized pollution, and increased warming in the cities compared to rural areas.

With increased population and an increasingly global economy (7-7.6) has come a change in the use of the earth's resources, often resulting in pollution and environmental issues. Some land development and farming techniques have led to soil erosion. The change in the use of the land has also changed wildlife habitats, endangering various

species around the world. The continued burning of coal and oil has released carbon dioxide into the atmosphere, leading to air pollution and acid rain. The earth's ozone layer, which protects us against the sun's ultraviolet rays, has been damaged by the release of CFCs (chlorofluorocarbons). Continued loss of ozone could result in increased levels of skin cancer and damage to plant and animal species. Efforts have been made by groups worldwide to curb the emissions of CFCs both by large manufacturers and by small producers. In 1992, many nations of the world signed the Kyoto Protocol, designed to reduce greenhouse gases emitted by each country.

Additionally, with increased publicity in recent years, public knowledge about global warming is increasing. Many communities and schools undertake recycling programs in an effort to reduce waste. Increasingly, some citizens are purchasing products made of recycled materials, opting for reusable bags at grocery stores, or using more energy efficient light bulbs in an effort to make a small impact. (This indicator can be taught in conjunction with indicator 7-7.6 that focuses on the impact of increasing global economic interdependence)

**It is not essential for students to know**

This is a limitless topic at this point in our history and it would be impossible to cover every aspect of international environmental issues and legislation. Focus for the indicator should be on the big picture: what caused the problem, and what is a basic synopsis of where we stand today in attempting to curb the problem? .

**Assessment guidelines:**

The objective of this indicator is to **explain** global influences on the environment; therefore, students should be able to **describe** the effects of increased population, the growth of cities, and efforts by citizens and governments to protect the environment.